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# United States Patent [19]

Kempf et al.

Patent Number: [11]

5,580,984

**Date of Patent:** [45]

Dec. 3, 1996

### [54] RETROVIRAL PROTEASE INHIBITING COMPOUNDS

[75] Inventors: Dale J. Kempf, Libertyville; Daniel W. Norbeck, Crystal Lake; Hing L. Sham; Chen Zhao, both of Gurnee; Thomas J. Sowin, Grayslake, all of Ill.; Daniel S. Reno, Kenosha, Wis.; Anthony R.

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[73] Assignee: Abbott Laboratories, Abbott Park, Ill.

[21] Appl. No.: 412,253

[22] Filed: Mar. 28, 1995

## Related U.S. Application Data

Division of Ser. No. 158,587, Dec. 2, 1999, abandoned, which is a continuation-in-part of Ser. No. 998,114, Dec. 29, 1992, abandoned, which is a continuation-in-part of Ser. No. 777,626, Oct. 23, 1991, abandoned, which is a continuation-in-part of Ser. No. 777,626, Oct. 23, 1991, abandoned, which is a continuation-in-part of Ser. No. 774,626, Oct. 23, 1991, abandoned, which is a continuation-in-part of Ser. No. 774,626, Oct. 23, 1991, abandoned, which is a continuation-in-part of Ser. No. 774,626, Oct. 23, 1991, abandoned, which is a continuation-in-part of Ser. No. 774,626, Oct. 23, 1991, abandoned, which is a continuation-in-part of Ser. No. 774,626, Oct. 23, 1991, abandoned, which is a continuation-in-part of Ser. No. 774,626, Oct. 23, 1991, abandoned, which is a continuation-in-part of Ser. No. 777,626, Oct. 23, 1991, abandoned, which is a continuation-in-part of Ser. No. 777,626, Oct. 23, 1991, abandoned, which is a continuation-in-part of Ser. No. 777,626, Oct. 23, 1991, abandoned, which is a continuation-in-part of Ser. No. 777,626, Oct. 23, 1991, abandoned, which is a continuation-in-part of Ser. No. 777,626, Oct. 23, 1991, abandoned, which is a continuation-in-part of Ser. No. 777,626, Oct. 23, 1991, abandoned, which is a continuation-in-part of Ser. No. 777,626, Oct. 23, 1991, abandoned, which is a continuation-in-part of Ser. No. 777,626, Oct. 23, 1991, abandoned, which is a continuation-in-part of Ser. No. 777,626, Oct. 23, 1991, abandoned, which is a continuation-in-part of Ser. No. 777,626, Oct. 23, 1991, abandoned, which is a continuation-in-part of Ser. No. 777,626, Oct. 23, 1991, abandoned, which is a continuation-in-part of Ser. No. 777, abandoned, which is a continuation-in-part of Ser. No. 777, abandoned, which is a continuation-in-part of Ser. No. 777, abandoned, which is a continuation-in-part of Ser. No. 777, abandoned, which is a continuation-in-part of Ser. No. 777, abandoned, which is a continuation-in-part of Ser. No. 777, abandoned, which is a continuation-in-part of Ser. No. 777, ab in-part of Ser. No. 746,020, Aug. 15, 1991, abandoned, which is a continuation-in-part of Ser. No. 616,170, Nov. 20, 1990, abandoned, which is a continuation-in-part of Ser. No. 518,730, May 9, 1990, Pat. No. 5,142,056, which is a continuation-in-part of Ser. No. 456,124, Dec. 22, 1989, abandoned, which is a continuation-in-part of Ser. No. 405,604, Sep. 8, 1989, abandoned, which is a continuation-in-part of Ser. No. 355,945, May 23, 1989, abandoned.

[51]	Int. Cl. C07D 277/28
[52]	U.S. Cl 548/204; 548/235; 564/8
(58)	Field of Search 564/8; 548/204,

[56]

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Primary Examiner-Jane Fan Attorney, Agent, or Firm-Steven R. Crowley

548/235

### **ABSTRACT**

A retroviral protease inhibiting compound of the formula:

$$R_1 \xrightarrow{R_2} 0 \xrightarrow{R_3} \overset{H}{\underset{N}{\mid}} X \xrightarrow{R_{4\alpha}} 0 \xrightarrow{R_6} R_7$$

is disclosed.

5 Claims, No Drawings